

**NOTICE OF DETERMINATION  
GENERAL STATE OPERATION PERMIT FOR  
THE APPLICATION OF HERBICIDES TO REELFOOT LAKE  
PERMIT NO. SOPHR0001**

**September 2003**

On January 9, 2003, the Tennessee Department of Environment and Conservation, Division of Water Pollution Control held a public hearing to receive comments concerning the issuance of a General NPDES Permit for the Application of Herbicides to waters of the state. Subsequent to the hearing, EPA issued a policy memo indicating that the application of herbicides to waters is not subject to NPDES regulation. However, the application of herbicides to waters is subject to state permitting under the Tennessee Water Quality Control Act. For that reason, this permit is being issued as a state permit as opposed to an NPDES. This notice of determination is the division's response to the comments received from the public as well as other agencies.

Comment 1: Was there a proper comment period, public notice for the hearing, and opportunity for public participation?

Response: TDEC placed this draft general permit on notice on November 25, 2002. At that time comments were solicited and notice was also given that a public hearing would be held on the evening of January 9, 2003, in Tiptonville. This notice was distributed to the division's mailing list, the Obion County Court Clerk and the Tiptonville City Recorder in accord with applicable rules. Both the draft permit and the rationale were posted on TDEC's web site on November 25, 2002. The notice of hearing was advertised in Union City's newspaper, The Messenger, on November 29, 2002. Public hearing was held as scheduled at 7:00 PM in the Assembly Hall of the Reelfoot Lake State Park Visitors Center, in Tiptonville. Although not an official notice, the Dyersburg State Gazette ran a headline article on January 9, 2003 entitled "State proposes altering permits for herbicides at Reelfoot Lake." The comment period was advertised to end on January 23, 2003. On February 6, 2003, a caller contacted the division, indicating that he had just heard about the draft general permit and asked that the comment period be extended. By email message dated February 6, 2003, the division informed the caller that the comment period would be held open through the end of February. Also in that message, he was directed to TDEC's web site for the draft and rationale. TDEC believes the rules for public participation have been followed and adequate opportunity for public participation has been provided.

Comment 2: Which weeds need to be controlled and why?

Response: There is extensive coverage of aquatic plants in the shallow waters of Reelfoot Lake. Plants include native and exotic species; emergent and non-emergent. Specific species include: curly-leaf pondweed, coontail, water willow, water penny wort,

spatterdock, fragrant water lily, American lotus and giant cutgrass. As the resource manager for Reelfoot, TWRA maintains boat lanes using mechanical means and herbicides. Access to much of the lake would be severely restricted if boat lanes were not maintained. Also, open water around duck blinds is maintained by the owner of the duckblind using mechanical means and use of herbicides. Reelfoot Lake is intensively used for hunting and fishing, and open water is necessary for duck hunting.

Comment 3: Have alternatives been considered? Will applicants be required to consider other alternatives?

Response: TWRA has extensive experience with managing aquatic plants on Reelfoot, and that agency's finding is that herbicide use is essential in maintaining the recreation use of the resource. TDEC agrees with that position. Recreation depends on access, and it is simply not feasible to maintain open water solely by mechanical means. Individual applicants will need to obtain site-specific approval from TWRA, but they will not be required to conduct an alternatives assessment on a site-by-site basis. The department considers that alternatives have been considered on a lake-wide basis, and that the limited use of herbicides authorized in the general permit is a reasonable alternative and will be fully protective of the classified uses of the lake.

Comment 4: How will individual applications be controlled under this general permit? How many duck blinds and private or commercial docks will be eligible to apply herbicides under the general permit?

Response: The draft general permit proposed to authorizes herbicides approved by the Tennessee Department of Agriculture (TDA) in accord with label directions. Application sites must be individually permitted by TWRA. In addition, the general permit establishes limitations on the area that can be treated and requires placement of signs around the affected area before, during and after the application. The style and content of those signs are set out in detail in the general permit. There are approximately 210 duck blinds on the lake in Tennessee and TWRA issues between 12 and 15 weed control permits per year.

Comment 5: What authority does TWRA have to issue permits?

Response: Tennessee law identifies Reelfoot Lake as a Class 1 Scenic Recreational Area under the Natural Areas Preservation Act, TCA Section 11-14-101, et seq. Since 1984, the act has established TWRA as administrator of this resource for the State of Tennessee, with authority to manage it in Tiptonville. TWRA's authority includes regulating the use of aquatic herbicides in Reelfoot lake. The general permit is not intended to expand or restrict that authority.

Comment 6: Can TDEC authorize application of aquatic herbicides to waters overlying private land without approval of the landowners?

Response: Yes. Tennessee's Water Quality Control Act authorizes TDEC to issue permits for discharges to waters of the state, which include "...any and all water, public or private,

on or beneath the surface of the ground which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters..." Many permits issued by the division authorize discharges to waters that stand or flow across private lands not owned by the discharger. Our general permit sets out explicitly that it "...does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor invasion of personal rights..."

Comment 7: Will individual appliers have to be licensed by the State of Tennessee?

Response: The rules of the Tennessee Department of Agriculture require that any application of aquatic herbicide to state waters be done by under direct supervision of a person licensed under those rules.

Comment 8: Will other TDEC permits be required, such as Aquatic Resource Alteration Permit or a navigation permit?

Response: No, this general permit will fully authorize the application of aquatic herbicides under both the Tennessee Water Quality Control.

Comment 9: What will be the extent of the authorized area?

Response: The permit as drafted would have authorized application in all waters of Reelfoot Lake that are in Tennessee. As discussed below, TDEC has received comment that suggests exclusion of the Reelfoot National Wildlife Refuge in Obion and Lake Counties. We agree with that comment and will exclude this area from the general permit.

Comment 10: Does the National Environmental Policy Act apply to this permit process?

Response: No. The issuance of permits by authorized states is not subject to NEPA.

Comment 11: Has TDEC done any human health, environmental or archeological studies specific to this permit, or have load allocations been established as Total Daily Maximum Loads (TMDLs)?

Response: TDEC has done no independent studies of the aquatic herbicides that will be used. We have no ability to perform any such investigations and we are relying fully on the EPA and the Tennessee Department of Agriculture approval processes for aquatic herbicides to establish that these herbicides are safe when used as directed. Specific health concerns about the use of organophosphates have been raised, but we will not propose to address these except to restrict this authorization to herbicides approved by the Tennessee Department of Agriculture for aquatic application used in accord with label directions and as may be further restricted by permit from TWRA.

Under federal rules, TMDLs are established for pollutants that have been determined to impair the classified uses of waters. Portions of Reelfoot Lake have been determined to be impaired by organic enrichment, nutrients, solids, pH, and altered flow. Noxious aquatic plants are named as impairing Buck Basin. Still, these waters are not impaired by herbicide application, or any chemical addition, and a TMDL is not required nor appropriate. Finally, we do not anticipate any impacts on archeological or historical resources.

Note that the permit explicitly prohibits "(A)dverse impact to formally listed state or federal threatened or endangered species or their critical habitat, cultural, historical, or archeological features or sites..."

Comment 12: Please list all the herbicides and the brand names that will be used.

Response: As stated previously, only those herbicides approved by TDA for aquatic use will be authorized. TDA's approval of aquatic herbicides must be renewed annually. As of 7/1/03, 17 products are approved for aquatic weed control. These products are listed in appendix A.

Comment 13: Has TDEC considered toxicity of the herbicides to non-target species, endangered species, or bird populations?

Response: Any aquatic plants that happen to grow in boat lanes or in the limited areas around duck blinds will be target for elimination by the herbicides. The approved herbicides are not expected to have any noticeable effect on aquatic vegetation located outside the target areas. The amount of lake acres that will be treated is very small compared to the total lake area. Therefore, essentially no overall impact on endangered species at the lake is expected. The approved herbicides are expected to have no impact on any resident or migratory bird populations at the lake.

Comment 14: Reelfoot is an Outstanding National Resource Water (ONRW). Can herbicide application be authorized under the strict protection rules governing such waters?

Response: The Tennessee portion of Reelfoot Lake has been determined by the Tennessee Water Quality Control Board to be an ONRW, and the Antidegradation Policy portion of our water quality standards prohibits any new or expanded discharges "...unless such activity will not result in degradation of water quality." However, degradation is not considered to occur if the effect is de minimus. TDEC considers that the result of the activity authorized by this general permit will be to further recreational use of Reelfoot Lake and that it will have essentially no impact on any other uses of the waters.

Comment 15: Has TDEC coordinated with the State of Kentucky, the Tennessee Attorney General, and its own Division of Natural Heritage and Policy Office?

Response: TDEC advised the Kentucky Department of Fish and Wildlife (KDFW) of its intent to issue this permit. Any KDFW concerns were addressed by the exclusion of areas within the national wildlife refuge from permit coverage. The office of the Tennessee Attorney General, the Division of Natural Heritage and TDEC's Policy Office have assisted in the preparation of comment responses and also any subsequent changes to the permit.

Comment 16: Will TDEC conduct monitoring of the use or the effects of herbicides in Reelfoot Lake?

Response: TDEC periodically does chemical, physical and biological monitoring of the lake. We do not expect to monitor for herbicides, but the permit does require that TWRA provide an annual report to TDEC that summarizes all aquatic herbicide application activities including the types and amounts of herbicides actually applied, the extent of the areas treated, and the type and extent of aquatic vegetation treated.

Comment 17: The U. S. Fish and Wildlife Services requests that the general permit specifically exclude the approximate 10,500 acre Reelfoot Lake National Wildlife Refuge. Further, the Service requests appropriate coordination with the refuge manager and copies of the annual reports.


Response: These requests will be honored, and the general permit will be revised to reflect the changes. We note that hunting and duck blinds are not allowed in the refuge. Any maintenance of boat lanes in the refuge will need to be by mechanical means, unless a separate permit is issued for application of aquatic herbicides to those waters.

Comment 18: TWRA suggests that the division amend Item IV. c. to read as follows: "Application of herbicides is limited to a total treatment area of four (4) acres or less around duck blinds or other fixed structures. Square footage determination will include the treated area along boat channels and/or along navigable boat lanes to provide blind access, in addition to the treated area around the structure(s)."

Response: TDEC agrees that this language is no less protective of the waters and will make the change.

The division has determined the issuance of this general permit with the above-discussed revisions will protect the classified uses of Reelfoot Lake. The division's decision is to issue this permit as of the date of this notice.

Date: 9/26/03

 for  
Paul Estill Davis, P.E.  
Director

SOPHR001  
Notice of Determination

APPENDIX A  
TDA-Approved Aquatic Herbicides

EPA Reg #	Name	Expires
<a href="#">100-1091</a>	REWARD LANDSCAPE AND <b>AQUATIC</b> HERBICIDE	6/30/2004
<a href="#">10182-404</a>	REWARD LANDSCAPE AND <b>AQUATIC</b> HERBICIDE	6/30/2004
<a href="#">1812-307-2217</a>	GORDONS AQUACURE <b>AQUATIC</b> ALGAECIDE TURF & ORNAMEN	6/30/2004
<a href="#">1812-307-2217</a>	GORDONS PONDMASTER <b>AQUATIC</b> ALGAECIDE	6/30/2004
<a href="#">1812-312-2217</a>	GORDONS PONDMASTER <b>AQUATIC</b> HERBICIDE	6/30/2004
<a href="#">1812-312-2217</a>	AQUA CURE <b>AQUATIC</b> HERBICIDE	6/30/2004
<a href="#">228-365</a>	RIVERDALE AQUANEAT <b>AQUATIC</b> HERBICIDE	6/30/2004
<a href="#">228-365-4581</a>	AQUA NEAT <b>AQUATIC</b> HERBICIDE	6/30/2004
<a href="#">4581-172</a>	HYDROTHOL 191 GRANULAR <b>AQUATIC</b> ALGICIDE AND HERBIC	6/30/2004
<a href="#">4581-174</a>	HYDROTHOL 191 <b>AQUATIC</b> ALGICIDE AND HERBICIDE	6/30/2004
<a href="#">4581-204</a>	AQUATHOL K <b>AQUATIC</b> HERBICIDE	6/30/2004
<a href="#">4581-388</a>	AQUATHOL SUPER K GRANULAR <b>AQUATIC</b> HERBICIDE	6/30/2004
<a href="#">4787-34</a>	GLYFOS <b>AQUATIC</b> HERBICIDE	6/30/2004
<a href="#">524-343</a>	RODEO EMERGED <b>AQUATIC</b> WEED AND BRUSH HERBICIDE	6/30/2004
<a href="#">67690-10</a>	NAUTIQUE <b>AQUATIC</b> HERBICIDE	6/30/2004
<a href="#">70829-2</a>	CLEAROUT 41 <b>AQUATIC</b>	6/30/2004
<a href="#">7401-459</a>	HI-YIELD KILLZALL <b>AQUATIC</b> HERBICIDE	6/30/2004